RE: Update on AMR letter issues?

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MH

Mark Hanson <MHANSON@stlouispark.org>

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Thu 6/4/2015 4:15 PM

To: Evison, Leah;

Cc: ☐ Jay Hall <jhall@stlouispark.org>; ☐ 'William Gregg' <bgregg@summite.com>; ☐ Eric Tollefsrud <ETollefsrud@Geosyntec.com>; ☐ Scheer, Dave (MPCA) <dave.scheer@state.mn.us>;

Flag for follow up. Start by Thursday, June 04, 2015. Due by Thursday, June 04, 2015.

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20150602_Well W105.pdf
917 KB

W440_W105_SLP4T_SLP...
3 MB

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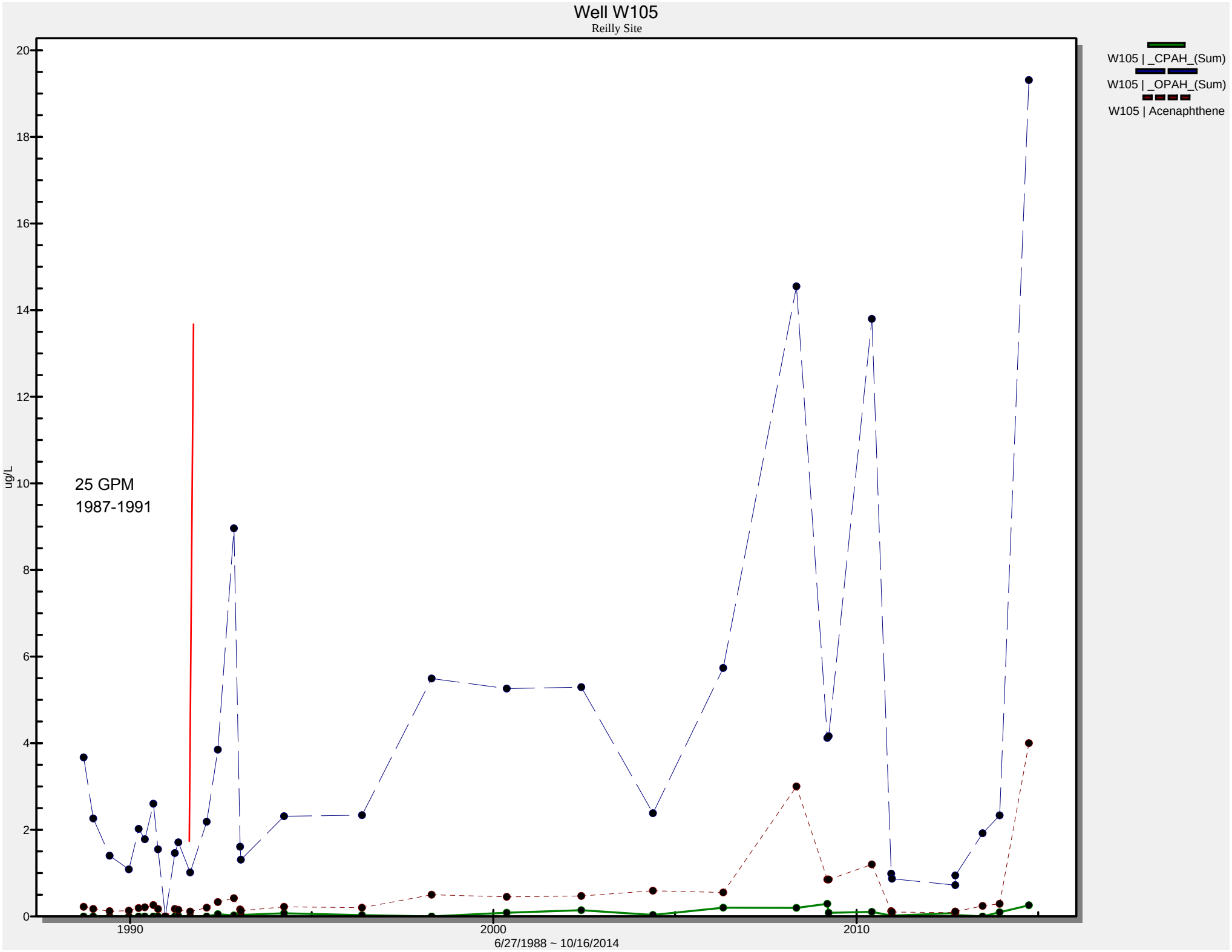
Hi Leah –

Here's a quick update of our progress:

- **Surveying:** our Engineering Department is roughly 25 % done. It is slow going due to their commitments associated with other projects but will be done this summer.
- **E11 Transducer:** Bill just let me know he has been unsuccessful with reaching our Edina counterparts so I'll have Jay either call or swing by to work through it with Dave Goergen.
- **W105:** As you know, W105 has pumped since 1991. Attached is a graph through 2014 of cPAHs, oPAHs and Acenaphthene. As a side note, Bill added that the March 2015 result was well below the cessation criterion (~1,250 ppt). I've also included the data validation and lab report for the sampling data as well.

Please let me know if you have any other questions.

Thanks,
Mark


Well W105
Reilly Site
W105 | _CPAH_(Sum)
W105 | _OPAH_(Sum)
W105 | Acenaphthene
ug/L
20
18
16
14
12
10
8
6
4
2
0
25 GPM
1987-1991
1990
2000
2010
6/27/1988 ~ 10/16/2014

DATA VALIDATION

FOR

GROUNDWATER and GAC TREATMENT SYSTEM MONITORING
REILLY N.P.L. SITE
SAINT LOUIS PARK, MINNESOTA

ORGANIC ANALYSIS DATA
PAHs in Water
Laboratory Job No. K1502868

Analyses Performed

By:

ALS Kelso
Kelso, Washington

For:

Summit Envirosolutions, Inc.
1217 Bandana Boulevard North
St. Paul, Minnesota 55108

Data Validation By:

ddms, inc.
St. Paul, Minnesota

April 29, 2015

St. Louis Park\K1502868PAH

EXECUTIVE SUMMARY

Validation of the semivolatile organics analysis data prepared by ALS Kelso for fourteen aqueous samples and one field blank from the Reilly N.P.L. Site has been completed by ddms, inc. (ddms). The data were reported by the laboratory under Job No. K1502868 in a single data package. The following samples were reported:

W440_20150318_310	W440_20150318_325	W440_20150318_355
W105_20150318	SLP4T_20150318	E7_20150318
SLP6_20150318	E13_20150318	E15_20150318
SLP5_20150318_318	SLP5_20150318_338	SLP5_20150318_359
SLP5_20150318_385	SLP10T_20150318	SLP10TFB_20150318

Based on the validation effort, all results were determined to be valid as reported, with the following exceptions:

- Results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, as summarized below:
    - naphthalene in all samples except the field blank,
    - 1-methylnaphthalene, biphenyl, dibenzofuran, phenanthrene, anthracene, and benzo[a]anthracene in W440_20153018_310,
    - 1-methylnaphthalene, biphenyl, and dibenzofuran in W440-_20153018_325 and W440_20153018_355,
    - indan, biphenyl, phenanthrene, anthracene, fluoranthene, pyrene, and benzo[a]anthracene in SLP4T_20153018,
    - indan, 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, dibenzofuran, phenanthrene, anthracene, fluoranthene, pyrene, and benzo[a]anthracene in E7_20153018,
    - 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, dibenzofuran, fluorene, phenanthrene, fluoranthene, and benzo[a]anthracene in SLP6_20153018,
    - 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, anthracene, fluorene, phenanthrene, fluoranthene, and benzo[a]anthracene in E13_20153018,
    - indan, 2-methylnaphthalene, acenaphthene, biphenyl, dibenzofuran, fluoranthene, pyrene, and benzo[a]anthracene in E15_20153018,
    - biphenyl, anthracene, and benzo[a]anthracene in SLP5-_20153018_318 and SLP5_20153018_338,

- anthracene and biphenyl in SLP5_20153018_359 and SLP5_20153018-385,
- dibenzofuran, fluoranthene, pyrene, benzo[a]anthracene, 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, and phenanthrene, in SLP10T_20153018, and
- fluoranthene and benzo[a]anthracene in SLP10TFB_20153018.

- Results for pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[e]pyrene, benzo[a]pyrene, perylene, indeno[1,2,3-cd]pyrene, dibenz(a,h)anthracene, and benzo[g,h,i]perylene in W440_20150318_310, W440_20150318_325, SLP5_20150318_318, W440_20150318_355 and SLP5_20150318_359 and for dibenzothiophene, phenanthrene, anthracene, acridine, carbazole, and fluoranthene in W440_20150318_310, W440_20150318_325, and SLP5_20150318_318 were qualified as estimated (L, UJ) and may be biased low.

- Results for 2,3-benzofuran, indan, indene, benzo(b)thiophene, quinolone, indole, acridine, benzo[e]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]perylene, dibenz(a,h)anthracene, indeno[1,2,3-cd]pyrene, and perylene in all samples except the field blank were qualified as estimated (L, UJ).

- Results for 2,3-benzofuran, indene, indan, and acridine in the field blank were qualified estimated (L, UJ) and may be biased low.

- Results were qualified presumptively present (N) and estimated (J or L) for:

  - 2,3-benzofuran in W440_20150318_310, W440_20150318_325, W440_20150318_355, SLP6_20150318, SLP5_20150318_318, SLP5_20150318_338, W105_20150318, SLP5_20150318_359, and SLP5_20150318_385,
  - indene in SLP4T_20150318, E13_20150318, SLP10T_20150318, and E15_20150318,
  - benzo(b)thiophene in W440_20150318_310, W440_20150318_325, W440_20150318_355, E13_20150318, and SLP10T_20150318,
  - indole in W440_20150318_310, W440_20150318_325, W105_20150318, SLP6_20150318, SLP5_20150318_318, SLP5_20150318_338, SLP5_20150318_359, and E15_20150318,

- acenaphthylene in W440_20150318_310, W440_20150318_325, W440_20150318_355, E7_20150318, and SLP5_20150318_318,
- carbazole in W440_20150318_325 and E7_20150318,
- fluoranthene in W440_20150318_310,
- chrysene and benzo[b]fluoranthene in SLP5_20150318_318,
- chrysene and benzo[k]fluoranthene in W440_20150318_310,
- dibenz(a,h)anthracene in W440_20150318_325,
- benzo[k]fluoranthene and benzo[e]pyrene in SLP5_20150318_385, and
- 2-methylnaphthalene, acenaphthene, and dibenzofuran in SLP10TFB_20150318.

Details of the validation findings and conclusions based on review of the results for each quality control requirement are provided in the remaining sections of this report. Brief explanations of the reasons for the actions taken above can be found in Section XIII.

Documentation issues are discussed in Section XII. The data user is strongly encouraged to refer to this section for an understanding of the implication of any documentation problems.

This report should be considered part of the data package for all future distributions of the semivolatiles data.

INTRODUCTION

Analyses were performed in accordance with USEPA Method 8270C SIM for the PAHs. This methodology does not stipulate a reporting format, however, upon request the laboratory provided a "CLP-type" data package. ddms' review was performed in accordance with the EPA's Region 5 Document "Standard Operating Procedure For Data Review Of Semivolatile Organic Compound Analysis By Gas Chromatography/Mass Spectrometry (GC/MS); CRL Method GEN010 / Version 9.0", ddms' "Validation and Review of Semivolatile Organic Data" (ECS-SOP-002), and the Quality Assurance Project Plan (QAPP) for Sampling and Analysis – Groundwater and GAC Treatment System Monitoring for the Reilly N.P.L. Site, St. Louis Park, Minnesota" February 2015. Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the referenced methods. An initial assumption is that the data package is presented in accordance with the CLP requirements (or "CLP-like," as in this case). It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the EPA Region 5 document as follows:

U = The compound was analyzed for, but was not detected above the reported sample quantitation limit.

J = The compound was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

K = The identification of the compound is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.

L = The identification of the compound is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.

MI = This flag applies when an compound has matrix interferences.

N = The analysis indicates the presence of an compound for which there is presumptive evidence to make a “tentative identification”.

NJ= The analysis indicates the presence of an compound that has been “tentatively identified” and the associated numerical value represent its approximate concentration.

UJ= The compound was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the compound in the sample.

R= The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence of absence of the compound cannot be verified.

All qualifiers are reflected on the data summary forms included as Attachment A to this report, as well as the Organic Analyses Data Sheets (Form 1s) in Attachment B of this validation report to qualify the results, as appropriate, according to the review of the data package.

Two facts should be noted by all data users. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, **no concentration is guaranteed to be accurate even if all associated quality control is acceptable.** Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

I. Holding Times, Preservation and Sample Integrity

A copy of the applicable chain of custody (COC) record was included in the data package, documenting a sample collection date of March 18, 2015. The samples were received by the laboratory on March 19, 2015. The temperature of each of the coolers on receipt at the laboratory was noted on the COC (0.2° C to 2.3° C; criteria 4.0° C ± 2.0° C). Although several of the coolers were received at temperatures below the acceptance criteria, since the samples were not frozen no impact to the sample integrity is expected. Extraction of all samples began on March 25, 2015, which is within the 7-day holding time for aqueous samples. Sample extracts were analyzed on April 2 and 3, 2015, which are within the 40-day holding time for sample extracts.

II. GC/MS Instrument Performance Check

The samples were analyzed on one GC/MS system, identified as "MS20". Summary forms for three decafluorotriphenylphosphine (DFTPP) instrument performance checks run in association with these samples, representing each 12-hour period during which the samples or associated standards, were included in the data package. All three of the performance checks were acceptable based on the summary forms provided.

III. Calibration

Manual integrations were performed on several analytes, based on documentation in the data package. All manual integrations appear to have been acceptably performed.

A. Initial Calibration (IC)

One 10-point IC was performed on April 2, 2015, for all of the target compounds. Documentation of all individual IC standards was provided by the laboratory and relative response factors (RRFs) as well as percent relative standard deviation (%RSD) values were correctly calculated and accurately reported. All reported RRF values were greater than the method-specific minimum acceptance criterion of 0.05, and all %RSD values were below the maximum acceptance limit of 30 percent as defined in the QAPP. An initial calibration verification standard was analyzed immediately after the IC. All percent difference (%D) values and RRFs were acceptable.

B. Continuing Calibration (CC)

Two CC standards were run on April 2 and April 3, 2015. All reported RRF values were greater than the method-specific minimum acceptance criterion of 0.05, and all %D values were acceptable.

IV. Blanks

One laboratory method blank and one field blank (SLP10TFB_20150318FB) were analyzed in support of these samples. The table below summarizes the compounds reported in the method and/or field blank (ng/L).

Compound	SLP10TFB_20150318	Method Blank
Indan	0.50	
Naphthalene	120	0.95
2-Methylnaphthalene	1.1	0.38
1-Methylnaphthalene	1.5	
Biphenyl	1.5	1.1
Acenaphthene	0.42	
Dibenzofuran	0.47	0.24
Fluorene		0.26
Phenanthrene	1.2	0.9
Anthracene		0.38
Fluoranthene	0.52	0.58
Pyrene	0.45	0.44
Benzo[a]anthracene	0.43	0.49

Results less than five times the amount detected in any blank were qualified as not detected (U) at the reporting limit or reported value, whichever is greater. Results were qualified as summarized below:

- naphthalene in all samples except the field blank,
- 1-methylnaphthalene, biphenyl, dibenzofuran, phenanthrene, anthracene, and benzo[a]anthracene in W440_20153018_310,
- 1-methylnaphthalene, biphenyl, and dibenzofuran in W440_20153018_325 and W440_20153018_355,
- indan, biphenyl, phenanthrene, anthracene, fluoranthene, pyrene, and benzo[a]anthracene in SLP4T_20153018,

- indan, 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, dibenzofuran, phenanthrene, anthracene, fluoranthene, pyrene, and benzo[a]anthracene in E7_20153018,
- 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, dibenzofuran, fluorene, phenanthrene, fluoranthene, and benzo[a]anthracene in SLP6-_20153018,
- 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, anthracene, fluorene, phenanthrene, fluoranthene, and benzo[a]anthracene in E13-_20153018,
- indan, 2-methylnaphthalene, acenaphthene, biphenyl, dibenzofuran, fluoranthene, pyrene, and benzo[a]anthracene in E15_20153018,
- biphenyl, anthracene, and benzo[a]anthracene in SLP5_20153018_318 and SLP5_20153018_338,
- biphenyl and anthracene in SLP5_20153018_359 and SLP5_20153018_385,
- dibenzofuran, fluoroanthene, pyrene, benzo[a]anthracene, 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, and phenanthrene in SLP10T_20153018, and
- fluoranthene and benzo[a]anthracene in SLP10TFB_20153018.

V. Surrogate Compound Recovery

Recoveries (%R) of all of the surrogate compounds were correctly calculated, accurately reported, and within laboratory acceptance limits with the exception of fluoranthene–d_{10} (criteria 51%-121%) and terphenyl-d_{14} (criteria 58%-140%) in W440_20150318_310 (26% and 9%R, respectively), W440_20150318_325 (37% and 13%R, respectively), and SLP5_20150318_318 (43% and 14%R) and terphenyl-d_{14} in W440_20150318_355 (22%R) and SLP5_20150318_359 (14%R). Results for pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[e]pyrene, benzo[a]pyrene, perylene, indeno[1,2,3-cd]pyrene, dibenz(a,h)anthracene, and benzo[g,h,i]perylene in W440_20150318_310, W440_20150318_325, SLP5_20150318_318, W440_20150318_355 and SLP5_20150318_359 and for dibenzothiophene, phenanthrene, anthracene, acridine, carbazole, and fluoranthene in W440_20150318_310, W440_20150318_325, and SLP5_20150318_318 were qualified as estimated (L, UJ) and may be biased low.

VI. Spike Analysis

A. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were performed on sample SLP10T_20150318. Percent recoveries (%R) and RPD values were acceptable except as summarized below:

Compound	MS %R	MSD %R	RPD*	QC Limits %R (RPD)	Action (Detects, Non-detects)
2,3-Benzofuran	67	62	7	70-130 (30)	L, UJ
Indan	65	61	6	70-130 (30)	L, UJ
Indene	68	64	7	70-130 (30)	L, UJ
Benzo(b)thiophene		67	7	70-130 (30)	L, UJ
Quinoline	65			70-130 (30)	L, UJ
Indole		65	8	70-130 (30)	L, UJ
Acridine	38	64	52	70-130 (30)	L, UJ
Benzo[e]pyrene	45	39	15	46-135 (30)	L, UJ
Benzo[b]fluoranthene		38	15	40-139 (25)	L, UJ
Benzo[k]fluoranthene	46	40	13	30-150 (25)	L, UJ
Benzo[g,h,i]perylene	15	15		30-150 (25)	L, UJ
Dibenz(a,h)anthracene	12	12		30-150 (25)	L, UJ
Indeno[1,2,3-cd]pyrene	15	15		30-150 (25)	L, UJ
Perylene	45	39	13	30-150 (25)	L, UJ

* = Based on amount recovered.

Results for 2,3-benzofuran, indan, indene, benzo(b)thiophene, quinolone, indole, acridine, benzo[e]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]perylene, dibenz(a,h)anthracene, indeno[1,2,3-cd]pyrene, and perylene in all samples except the field blank were qualified as estimated (L, UJ) due to unacceptable MS/MSD recoveries.

B. Laboratory Control Sample (LCS)

Results for one LCS/LCSD pair were provided in the data package. All %Rs were acceptable with the exception of 2,3-benzofuran (66% LCSD; criteria 70%-130%), indene (67% LCSD; criteria 70%-130%), indan (68% and 64%R; criteria 70%-130%), and acridine (45%/ 56%; criteria 70%-130%). Results for 2,3-benzofuran, indene, indan, and

acridine in all samples were qualified estimated (L, UJ) and may be biased low due to unacceptable LCS/LCSD recoveries.

VII. Field Duplicate

Sample SLP10T_20150318 was submitted as a field duplicate; however, the sample was not analyzed.

VIII. Internal Standard Performance

All internal standard areas and retention times were within quality control limits for the applicable analyses.

IX. Target Compound Identification

Ion chromatograms were provided for each of the compounds reported in these samples. Except as summarized below, all ions were within the laboratory established ion ratio acceptance criteria. Results were qualified presumptively present (N) and estimated (J) due to unacceptable ion ratios for:

- 2,3-benzofuran in W440_20150318_310, W440_20150318_325, W440_20150318_355, W105_20150318, SLP6_20150318, SLP5_20150318_318, SLP5_20150318_338, SLP5_20150318_359, and SLP5_20150318_385,
- indene in SLP4T_20150318, E13_20150318, SLP10T_20150318, and E15_20150318,
- benzo(b)thiophene in W440_20150318_310, W440_20150318_325, W440_20150318_355, E13_20150318, and SLP10T_20150318,
- indole in W440_20150318_310, W440_20150318_325, W105_20150318, SLP6_20150318, SLP5_20150318_318, SLP5_20150318_338, SLP5_20150318_359, and E15_20150318,
- acenaphthylene in W440_20150318_310, W440_20150318_325, W440_20150318_355, E7_20150318, and SLP5_20150318_318,
- carbazole in W440_20150318_325 and E7_20150318,
- fluoranthene in W440_20150318_310,
- chrysene and benzo[b]fluoranthene in SLP5_20150318_318,
- chrysene and benzo[k]fluoranthene in W440_20150318_310,

- dibenz(a,h)anthracene in W440_20150318_325,
- benzo[k]fluoranthene and benzo[e]pyrene in SLP5_20150318_385, and
- 2-methylnaphthalene, acenaphthene, and dibenzofuran in SLP10TFB_20150318.

For many of the analytes, the result was previously qualified estimated and biased low (L) and that qualifier takes precedence over the “J” qualifier.

X. Compound Quantitation and Reporting Limits (RL)

Target compound concentrations and reporting limits were correctly calculated and accurately reported for all samples. The laboratory appropriately applied “J” qualifiers to concentrations that were less than the reporting limit but greater than the method detection limit (MDL). In most cases, the reporting limits were based on the project required reporting limits form the QAPP. All laboratory-reported MDLs were less than the project RL goals. The analyte specific RL may be determined by multiplying the compound specific RL (far left column of the data summary form) by dilution factor. For indole in W440_20150318_355, the narrative indicated that a matrix interference prevented adequate resolution of the target compound, and the RL was raised to 12U.

XI. System Performance

The analytical system appears to have been working satisfactorily at the time of these analyses, based on evaluation of the available raw data.

XII. Documentation

The chain-of-custody record was present and accurately completed for the samples reported in this data package.

XIII. Overall Assessment

Based on the validation effort, all results were determined to be valid as reported, with the following exceptions:

- Results less than five times the amount detected in any blank were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, as summarized below:

    - naphthalene in all samples except the field blank,
    - 1-methylnaphthalene, biphenyl, dibenzofuran, phenanthrene, anthracene, and benzo[a]anthracene in W440_20153018_310,
    - 1-methylnaphthalene, biphenyl, and dibenzofuran in W440-_20153018_325 and W440_20153018_355,
    - indan, biphenyl, phenanthrene, anthracene, fluoranthene, pyrene, and benzo[a]anthracene in SLP4T_20153018,
    - indan, 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, dibenzofuran, phenanthrene, anthracene, fluoranthene, pyrene, and benzo[a]anthracene in E7_20153018,
    - 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, dibenzofuran, fluorene, phenanthrene, fluoranthene, and benzo[a]anthracene in SLP6_20153018,
    - 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, anthracene, fluorene, phenanthrene, fluoranthene, and benzo[a]anthracene in E13_20153018,
    - indan, 2-methylnaphthalene, acenaphthene, biphenyl, dibenzofuran, fluoranthene, pyrene, and benzo[a]anthracene in E15_20153018,
    - biphenyl, anthracene, and benzo[a]anthracene in SLP5-_20153018_318 and SLP5_20153018_338,
    - anthracene and biphenyl in SLP5_20153018_359 and SLP5_20153018_358,
    - dibenzofuran, fluoranthene, pyrene, benzo[a]anthracene, 1-methylnaphthalene, 2-methylnaphthalene, biphenyl, and phenanthrene, in SLP10T_20153018, and
    - fluoranthene and benzo[a]anthracene in SLP10TFB_20153018.

- Results for pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[e]pyrene, benzo[a]pyrene, perylene, indeno[1,2,3-cd]pyrene, dibenz(a,h)anthracene, and benzo[g,h,i]perylene in W440_20150318_310, W440_20150318_325, SLP5_20150318_318, W440_20150318_355 and SLP5_20150318_359 and for dibenzothiophene, phenanthrene, anthracene, acridine, carbazole, and fluoranthene in W440_20150318_310, W440_20150318_325, and SLP5_20150318_318 were qualified as estimated (L, UJ) and may be biased low due to unacceptable surrogate recoveries.

- Results for 2,3-benzofuran, indan, indene, benzo(b)thiophene, quinolone, indole, acridine, benzo[e]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]perylene, dibenz(a,h)anthracene, indeno[1,2,3-cd]pyrene, and perylene in all samples except the field blank were qualified as estimated (L, UJ) due to unacceptable MS/MSD recoveries.

- Results for 2,3-benzofuran, indene, indan, and acridine in all samples were qualified estimated (L, UJ) and may be biased low due to unacceptable LCS/LCSD recoveries.

- Results were qualified presumptively present (N) and estimated (J) due to unacceptable ion ratios for:

    - 2,3-benzofuran in W440_20150318_310, W440_20150318_325, W440_20150318_355, W105_20150318, SLP6_20150318, SLP5_20150318_318, SLP5_20150318_338, SLP5_20150318, and SLP5_20150318_359,
    - indene in SLP4T_20150318, E13_20150318, SLP10T_20150318, and E15_20150318,
    - benzo(b)thiophene in W440_20150318_310, W440_20150318_325, W440_20150318_355, E13_20150318, and SLP10T_20150318,
    - indole in W440_20150318_310, W440_20150318_325, W105_20150318, SLP6_20150318, SLP5_20150318_318, SLP5_20150318_338, SLP5_20150318_359, and E15_20150318,
    - acenaphthylene in W440_20150318_310, W440_20150318_325, W440_20150318_355, E7_20150318, and SLP5_20150318_318,
    - carbazole in W440_20150318_325 and E7_20150318,
    - fluoranthene in W440_20150318_310,
    - chrysene and benzo[b]fluoranthene in SLP5_20150318_318,
    - chrysene and benzo[k]fluoranthene in W440_20150318_310,
    - dibenz(a,h)anthracene in W440_20150318_325,
    - benzo[k]fluoranthene and benzo[e]pyrene in SLP5_20150318_385, and
    - 2-methylnaphthalene, acenaphthene, and dibenzofuran in SLP10TFB_20150318.

Documentation issues observed in the data package are described in Section XII.

This validation report should be considered part of the data package for all future distributions of the semivolatiles data.

ATTACHMENT A

DATA SUMMARY FORMS
Laboratory Job No. K1502868
PAHs in Water

DATA SUMMARY FORM: SEMIVOLATLES
WATER SAMPLES
(ng/L)

Site Name: St. Louis Park

Sampling Date: March 18, 2015

Job No. K1502868

ddms Project No. 2006-0022

Sample Location		W440_20150318_310		W440_20150318_325		W440_20150318_355		W105_20150318		SLP4T_20150318		E7_20150318	
Lab Sample ID		K1502868-001		K1502868-002		K1502868-003		K1502868-004		K1502868-005		K1502868-006	
Dilution Factor		0.94		0.94		0.94		0.96		0.94		0.94	
RL													
3.5	2,3-Benzofuran	3.9	LN	3.3	LN	2.1	LN	0.91	LN		UJ		UJ
3.5	Indan	50	L	47	L	35	L	73	L		UJ		UJ
3.5	Indene	45	L	42	L	33	L	18	L	0.46	LN	8.4	L
3.5	Naphthalene	16	U	23	U	88	U	82	U		U	5.8	U
3.5	Benzo(b)thiophene	1.0	LN	1.1	LN	0.94	LN	21	L		UJ	3.5	L
6.9	Quinoline	7.5	L	8.2	L	6.6	L	5.0	L		UJ		UJ
3.5	Indole	0.49	LN	0.98	LN	12	UJ	0.95	LN	3.0	LN		UJ
3.5	2-Methylnaphthalene	7.2		9.7		6.9		14					U
3.5	1-Methylnaphthalene	5.0	U	6.5	U	4.7	U	32					U
3.5	Biphenyl		U		U		U	36			U		U
3.5	Acenaphthylene	0.58	JN	0.98	JN	1.9	JN	30				0.54	JN
3.5	Acenaphthene	4.5		5.7		5.4		150				3.0	J
3.5	Dibenzofuran		U		U		U	41					U
3.5	Fluorene	3.7		4.5		4.5		120					
3.5	Dibenzothiophene	0.83	LN	1.3	L	1.8	J	18					
3.5	Phenanthrene	5.2	UJ	11	L	22		36			U		U
3.5	Anthracene		UJ	2.1	L	5.2		17			U		U
20	Acridine		UJ		UJ		UJ		UJ		UJ		UJ
3.5	Carbazole	1.4	L	2.0	LN	3.7		14				0.52	JN
3.5	Fluoranthene	3.3	LN	10	L	30		330			U		U
3.5	Pyrene	4.8	L	13	L	32	L	290			U		U
3.5	Benzo[a]anthracene		UJ	3.9	L	13	L	47			U		U
3.5	Chrysene	1.1	LN	5.2	L	17	L	35					
3.5	Benzo[b]fluoranthene	1.2	L	6.9	L	21	L	11	L		UJ		UJ
3.5	Benzo[k]fluoranthene	0.41	LN	2.1	L	7.3	L	3.8	L		UJ		UJ
3.5	Benzo[e]pyrene	0.69	L	3.8	L	12	L	5.8	L		UJ		UJ
3.5	Benzo[a]pyrene	0.77	L	4.0	L	13	L	7.5					
3.5	Perylene		UJ	0.92	L	3.1	L	1.6	L		UJ		UJ
3.5	Indeno[1,2,3-cd]pyrene	0.78	L	4.1	L	12	L	2.7	L		UJ		UJ
3.5	Dibenz(a,h)anthracene		UJ	1.0	LN	3.0	L	0.88	L		UJ		UJ
3.5	Benzo[g,h,i]perylene	0.68	L	3.8	L	12	L	2.9	L		UJ		UJ

DATA SUMMARY FORM: SEMIVOLATLES
WATER SAMPLES
(ng/L)

Site Name: St. Louis Park

Sampling Date: March 18, 2015

Job No. K1502868

ddms Project No. 2006-0022

Sample Location		SLP6_20150318		E13_20150318		E15_20150318		SLP5_20150318_318		SLP5_20150318_338		SLP5_20150318_359	
Lab Sample ID		K1502868-007		K1502868-008		K1502868-009		K1502868-010		K1502868-011		K1502868-012	
Dilution Factor		0.96		0.94		0.94		0.94		0.94		0.94	
RL													
3.5	2,3-Benzofuran	0.91	LN		UJ		UJ	1.2	LN	1.3	LN	1.3	LN
3.5	Indan	32	L	2.9	L		UJ	9.5	L	10	L	10	L
3.5	Indene	7.6	L	0.34	LN	0.27	LN	1.4	L	1.4	L	1.6	L
3.5	Naphthalene	7.7	U	110	U	4.5	U	180	U	220	U	160	U
3.5	Benzo(b)thiophene	8.6	L	0.28	LN		UJ	3.2	L	3.4	L	4.0	L
6.9	Quinoline		UJ		UJ		UJ		UJ	7.9	L		UJ
3.5	Indole	4.3	LN	0.66	L	0.40	LN	0.62	LN	0.65	LN	1.3	LN
3.5	2-Methylnaphthalene		U		U		U	7.5		7.8		7.5	
3.5	1-Methylnaphthalene		U		U			8.9		8.6		8.1	
3.5	Biphenyl		U		U		U	3.9	U	3.7	U	3.5	U
3.5	Acenaphthylene	5.6		6.7				0.36	JN	1.7	J	1.4	J
3.5	Acenaphthene	54		75			U	17		21		25	
3.5	Dibenzofuran		U				U	6.4		6.4		6.4	
3.5	Fluorene		U		U			8.6		8.6		9.1	
3.5	Dibenzothiophene	1.6	J	1.8	J			2.0	L	2.0	J	2.0	J
3.5	Phenanthrene		U		U			12	L	13		16	
3.5	Anthracene	3.7			U				UJ		U		U
20	Acridine	11	L		UJ		UJ	5.6	L	4.9	L	13	L
3.5	Carbazole	2.8	J					16	L	17		19	
3.5	Fluoranthene		U		U		U	8.8	L	5.9		4.5	
3.5	Pyrene	7.6		8.7			U	12	L	34		28	L
3.5	Benzo[a]anthracene		U		U		U		UJ		U	3.0	L
3.5	Chrysene							0.94	LN	2.0	J	1.6	L
3.5	Benzo[b]fluoranthene		UJ		UJ		UJ	0.41	LN		UJ	0.61	LN
3.5	Benzo[k]fluoranthene		UJ		UJ		UJ		UJ		UJ		UJ
3.5	Benzo[e]pyrene		UJ		UJ		UJ		UJ		UJ		UJ
3.5	Benzo[a]pyrene								UJ				UJ
3.5	Perylene		UJ		UJ		UJ		UJ		UJ		UJ
3.5	Indeno[1,2,3-cd]pyrene		UJ		UJ		UJ		UJ		UJ		UJ
3.5	Dibenz(a,h)anthracene		UJ		UJ		UJ		UJ		UJ		UJ
3.5	Benzo[g,h,i]perylene		UJ		UJ		UJ		UJ		UJ		UJ

DATA SUMMARY FORM: SEMIVOLATLES
WATER SAMPLES
(ng/L)

Site Name: St. Louis Park

Sampling Date: March 18, 2015

Job No. K1502868

ddms Project No. 2006-0022

Sample Location		SLP5_20150318		SLP10T_20150318		SLP10TFB_20150318							
Lab Sample ID		K1502868-013		K1502868-014		K1502868-015							
Dilution Factor		0.96		0.94		0.97							
RL													
3.5	2,3-Benzofuran	2.1	LN		UJ		UJ						
3.5	Indan	17	L	6.2	L	0.50	L						
3.5	Indene	2.2	L	0.91	LN		UJ						
3.5	Naphthalene	260	U	3.8	U	120							
3.5	Benzo(b)thiophene	5.7	L	0.44	LN								
6.9	Quinoline		UJ		UJ								
3.5	Indole	0.75	L	1.1	J								
3.5	2-Methylnaphthalene	11			U	1.1	JN						
3.5	1-Methylnaphthalene	13			U	1.5	J						
3.5	Biphenyl	5.2			U	1.5	J						
3.5	Acenaphthylene	1.7	J	0.41	J								
3.5	Acenaphthene	31		6.8		0.42	JN						
3.5	Dibenzofuran	10			U	0.47	JN						
3.5	Fluorene	14			U								
3.5	Dibenzothiophene	2.3	J										
3.5	Phenanthrene	21			U	1.2	J						
3.5	Anthracene		U										
20	Acridine	8.1	L		UJ		UJ						
3.5	Carbazole	28		0.42	J								
3.5	Fluoranthene	4.3			UJ		U						
3.5	Pyrene	57			UJ	0.45	J						
3.5	Benzo[a]anthracene	10			UJ		U						
3.5	Chrysene	4.9											
3.5	Benzo[b]fluoranthene	1.0	L		UJ								
3.5	Benzo[k]fluoranthene	0.28	LN		UJ								
3.5	Benzo[e]pyrene	0.38	LN		UJ								
3.5	Benzo[a]pyrene	0.33	J										
3.5	Perylene		UJ		UJ								
3.5	Indeno[1,2,3-cd]pyrene		UJ		UJ								
3.5	Dibenz(a,h)anthracene		UJ		UJ								
3.5	Benzo[g,h,i]perylene		UJ		UJ								

ATTACHMENT B

ORGANIC ANALYSIS REPORT SHEETS
Laboratory Job No. K1502868
PAHs in Water

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: W440_20150318_310
Lab Code: K1502868-001

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	3.9	X L N	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	*
Indan	50	L	3.3	0.34	1	03/25/15	04/02/15	KWG1502504	*
Indene	45	L	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	*
Naphthalene	16	U	3.3	0.55	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)thiophene	1.0	JX L N	3.3	0.16	1	03/25/15	04/02/15	KWG1502504	
Quinoline	7.5	L	6.5	3.6	1	03/25/15	04/02/15	KWG1502504	
Indole	0.49	JX L N	3.3	0.27	1	03/25/15	04/02/15	KWG1502504	
2-Methylnaphthalene	7.2		3.3	0.35	1	03/25/15	04/02/15	KWG1502504	
1-Methylnaphthalene	5.0	U	3.3	0.40	1	03/25/15	04/02/15	KWG1502504	
Biphenyl	~~2.1~~ J	L	3.3	0.30	1	03/25/15	04/02/15	KWG1502504	
Acenaphthylene	0.58	JX N	3.3	0.33	1	03/25/15	04/02/15	KWG1502504	
Acenaphthene	4.5		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Dibenzofuran	~~1.2~~ J	U	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluorene	3.7		3.3	0.23	1	03/25/15	04/02/15	KWG1502504	
Dibenzothiophene	0.83	J L N	3.3	0.10	1	03/25/15	04/02/15	KWG1502504	
Phenanthrene	5.2	U J	3.3	0.54	1	03/25/15	04/02/15	KWG1502504	
Anthracene	0.94	J	3.3	0.36	1	03/25/15	04/02/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/02/15	KWG1502504	*
Carbazole	1.4	J L	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluoranthene	3.3	L N	3.3	0.24	1	03/25/15	04/02/15	KWG1502504	
Pyrene	4.8	L	3.3	0.15	1	03/25/15	04/02/15	KWG1502504	
Benz(a)anthracene	~~1.1~~ J	U J	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Chrysene	1.1	J L N	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)fluoranthene	1.2	J L	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(k)fluoranthene	0.41	J L N	3.3	0.17	1	03/25/15	04/02/15	KWG1502504	
Benzo(e)pyrene	0.69	J L	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(a)pyrene	0.77	J	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Perylene	ND	U J	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	0.78	J L	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U J	3.3	0.25	1	03/25/15	04/02/15	KWG1502504	
Benzo(g,h,i)perylene	0.68	J L	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	

* See Case Narrative

Dolly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: W440_20150318_325
Lab Code: K1502868-002

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	3.3	~~X~~ L N	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	47	L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	42	L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	23	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	1.1	~~X~~ L N	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	8.2	L	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	0.98	~~X~~ L N	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	9.7		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	6.5	U	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	~~2.5 J~~	U	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	0.91	~~X~~ S N	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	5.7		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	~~1.8 J~~	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	4.5		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	1.3	J L	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	11		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	2.1	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	UJ	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	2.0	J L	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	10		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	13		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	3.9		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	5.2		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	6.9		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	2.1	J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	3.8		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	4.0		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	0.92	J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	4.1		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	1.0	~~X~~ L N	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	3.8	L	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Polly S. Newbold
4/29/2015

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: W440_20150318_355
Lab Code: K1502868-003

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	2.1	~~JX~~ L N	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	35	L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	33	L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	88	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	0.94	~~JX~~ L N	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	6.6	L	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	ND	~~U~~ UJ	12	12	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	6.9		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	4.7	U	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	~~2.4~~ J	U	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	1.9	J N	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	5.4		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	~~1.9~~ J	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	4.5		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	1.8	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	22		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	5.2		3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	3.7		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	30		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	32	L	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	13		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	17		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	21		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	7.3		3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	12		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	13		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	3.1	J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	12		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	3.0	J	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	12		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Dolly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: W105_20150318
Lab Code: K1502868-004

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	0.91	~~JX~~ L N	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	*
Indan	73	L	3.3	0.34	1	03/25/15	04/02/15	KWG1502504	*
Indene	18	L	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	*
Naphthalene	82	U	3.3	0.55	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)thiophene	21	L	3.3	0.16	1	03/25/15	04/02/15	KWG1502504	
Quinoline	5.0	~~J~~ L	6.6	3.6	1	03/25/15	04/02/15	KWG1502504	
Indole	0.95	J L N	3.3	0.27	1	03/25/15	04/02/15	KWG1502504	
2-Methylnaphthalene	14		3.3	0.35	1	03/25/15	04/02/15	KWG1502504	
1-Methylnaphthalene	32		3.3	0.40	1	03/25/15	04/02/15	KWG1502504	
Biphenyl	36		3.3	0.30	1	03/25/15	04/02/15	KWG1502504	
Acenaphthylene	30		3.3	0.33	1	03/25/15	04/02/15	KWG1502504	
Acenaphthene	150		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Dibenzofuran	41		3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluorene	120		3.3	0.23	1	03/25/15	04/02/15	KWG1502504	
Dibenzothiophene	18		3.3	0.10	1	03/25/15	04/02/15	KWG1502504	
Phenanthrene	36		3.3	0.54	1	03/25/15	04/02/15	KWG1502504	
Anthracene	17		3.3	0.36	1	03/25/15	04/02/15	KWG1502504	
Acridine	ND	UJ	20	2.6	1	03/25/15	04/02/15	KWG1502504	*
Carbazole	14		3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluoranthene	330		3.3	0.24	1	03/25/15	04/02/15	KWG1502504	
Pyrene	290		3.3	0.15	1	03/25/15	04/02/15	KWG1502504	
Benz(a)anthracene	47		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Chrysene	35		3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)fluoranthene	11	L	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(k)fluoranthene	3.8	|	3.3	0.17	1	03/25/15	04/02/15	KWG1502504	
Benzo(e)pyrene	5.8	|	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(a)pyrene	7.5		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Perylene	1.6	J	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	2.7	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Dibenz(a,h)anthracene	0.88	J	3.3	0.25	1	03/25/15	04/02/15	KWG1502504	
Benzo(g,h,i)perylene	2.9	~~J~~ L	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	

* See Case Narrative

Polly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP4T_20150318
Lab Code: K1502868-005

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	1.2	J	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	0.46	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	2.3	J	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	ND	U	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	3.0	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	ND	U	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	ND	U	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	1.3	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	ND	U	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	0.56	J	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	0.47	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	0.42	J	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	0.24	J	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	0.44	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Polly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: E7_20150318
Lab Code: K1502868-006

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	UJ	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	~~2.4~~	~~J~~ UJ	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	8.4	L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	5.8	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	3.5	L	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	UJ	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	~~1.4~~	~~J~~ UJ	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	~~1.1~~	~~J~~ U	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	~~0.85~~	~~J~~	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	~~1.4~~	~~J~~	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	0.54	J N	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	3.0	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	~~0.43~~	~~J~~ U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	~~0.96~~	~~J~~ U	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	~~1.2~~	~~J~~	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	0.52	J N	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	~~0.70~~	~~J~~ U	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	~~1.1~~	~~J~~	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	~~0.46~~	~~J~~	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Polly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP6_20150318
Lab Code: K1502868-007

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	0.91	~~JX~~ L N	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	32	L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	7.6	L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	7.7	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	8.6	L	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U J	6.6	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	4.3	L N	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	~~1.3 J~~	U	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	~~1.6 J~~		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	1.7 J		3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	5.6		3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	54		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	~~0.49 J~~	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	~~0.93 J~~	U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	1.6	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	~~2.0 J~~	U	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	3.7		3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	11	~~J~~ L	20	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	2.8	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	~~1.4 J~~	U	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	7.6		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	~~0.48 J~~	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U J	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Polly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: E13_20150318
Lab Code: K1502868-008

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	2.9	J L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	0.34	~~J~~ L N	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	110	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	0.28	J L N	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U J	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	0.66	J L	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	~~0.38~~	~~J~~ U	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	~~0.51~~	~~J~~	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	~~1.3~~	~~J~~	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	6.7		3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	75		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	~~0.68~~	~~J~~ U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	1.8	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	~~0.94~~	~~J~~ U	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	~~0.42~~	~~J~~	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	~~0.41~~	~~J~~ U	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	8.7		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	~~0.52~~	~~J~~ U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U J	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Polly S. Arcobold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: E15_20150318
Lab Code: K1502868-009

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	~~0.35~~	~~J~~ UJ	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	0.27	~~JX~~ LN	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	4.5	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	ND	U J	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U J	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	0.40	J LN	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	~~0.44~~	~~J~~ U	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	ND	U	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	~~1.1~~	~~J~~ U	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	ND	U	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	~~0.35~~	~~J~~ U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	~~0.23~~	~~J~~ U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	ND	U	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	ND	U	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	~~0.42~~	~~J~~ U	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	~~0.84~~	~~J~~	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	~~0.38~~	~~J~~	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U J	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Dolly S. Arcobold
4/29/2015

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP5_20150318_318
Lab Code: K1502868-010

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	1.2	~~JX~~ L N	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	9.5	L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	1.4	J L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	180	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	3.2	J L	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U J	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	0.62	J L N	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	7.5		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	8.9		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	3.9	U	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	0.36	J N	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	17		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	6.4		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	8.6		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	2.0	J L	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	12	L	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	~~1.2~~ J	U J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	5.6	J L	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	16		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	8.8		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	12		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	~~0.87~~ J	U J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	0.94	J L N	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	0.41	J L N	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Polly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP5_20150318_338
Lab Code: K1502868-011

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	1.3	~~JX~~ L N	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	10	L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	1.4	J L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	220	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	3.4	L	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	7.9	L	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	0.65	J L N	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	7.8		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	8.6		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	3.7	U	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	1.7	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	21		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	6.4		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	8.6		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	2.0	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	13		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	~~1.0~~	~~J~~ U	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	4.9	J L	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	17		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	5.9		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	34		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	~~2.3~~	~~J~~ U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	2.0	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U J	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Dolly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP5_20150318_359
Lab Code: K1502868-012

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	1.3	~~JX~~ L N	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	10	L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	1.6	J L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	160	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	4.0	L	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	UJ	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	1.3	J L N	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	7.5		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	8.1		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	3.5	U	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	1.4	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	25		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	6.4		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	9.1		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	2.0	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	16		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	~~1.3~~ J	U	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	13	J L	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	19		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	4.5		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	28	L	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	3.0	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	1.6	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	0.61	J L N	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Dolly J. Necobald
4/29/2015

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP5_20150318_385
Lab Code: K1502868-013

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	2.1	~~JX~~ L N	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	17	L	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	2.2	J L	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	260	U	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	5.7	L	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U J	6.6	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	0.75	J L	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	11		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	13		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	5.2		3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	1.7	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	31		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	10		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	14		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	2.3	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	21		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	~~1.7~~ J	U	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	8.1	J L	20	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	28		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	4.3		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	57		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	10		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	4.9		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	1.0	J L	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	0.28	J L N	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	0.38	J L N	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	0.33	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Dolly S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP10T_20150318
Lab Code: K1502868-014

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U J	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	*
Indan	6.2		3.3	0.34	1	03/25/15	04/02/15	KWG1502504	*
Indene	0.91	J X L N	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	*
Naphthalene	3.8	U	3.3	0.55	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)thiophene	0.44	J L N	3.3	0.16	1	03/25/15	04/02/15	KWG1502504	
Quinoline	ND	U J	6.5	3.6	1	03/25/15	04/02/15	KWG1502504	
Indole	1.1	J	3.3	0.27	1	03/25/15	04/02/15	KWG1502504	
2-Methylnaphthalene	~~0.43~~	~~J~~ U	3.3	0.35	1	03/25/15	04/02/15	KWG1502504	
1-Methylnaphthalene	~~1.5~~	~~J~~	3.3	0.40	1	03/25/15	04/02/15	KWG1502504	
Biphenyl	~~1.1~~	~~J~~	3.3	0.30	1	03/25/15	04/02/15	KWG1502504	
Acenaphthylene	0.41	J	3.3	0.33	1	03/25/15	04/02/15	KWG1502504	
Acenaphthene	6.8		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Dibenzofuran	~~0.29~~	~~J~~ U	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluorene	~~0.67~~	~~J~~	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/02/15	KWG1502504	
Phenanthrene	~~0.57~~	~~J~~ U	3.3	0.54	1	03/25/15	04/02/15	KWG1502504	
Anthracene	ND	U	3.3	0.36	1	03/25/15	04/02/15	KWG1502504	
Acridine	ND	U J	19	2.6	1	03/25/15	04/02/15	KWG1502504	*
Carbazole	0.42	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluoranthene	~~0.40~~	~~J~~ U J	3.3	0.24	1	03/25/15	04/02/15	KWG1502504	
Pyrene	~~0.32~~	~~J~~	3.3	0.15	1	03/25/15	04/02/15	KWG1502504	
Benz(a)anthracene	~~0.49~~	~~J~~	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)fluoranthene	ND	U J	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/02/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Perylene	ND	U J	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/02/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	

* See Case Narrative

Darby S. Newbold
4/29/2015

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP10TFB_20150318
Lab Code: K1502868-015

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U J	3.4	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**0.50**	J N	3.4	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	ND	U J	3.4	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**120**		3.4	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	ND	U	3.4	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.7	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	ND	U	3.4	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**1.1**	J N	3.4	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**1.5**	J	3.4	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**1.5**	J	3.4	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	ND	U	3.4	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**0.42**	J N	3.4	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**0.47**	J N	3.4	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.4	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.4	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**1.2**	J	3.4	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	ND	U	3.4	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U J	20	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.4	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	~~**0.52**~~	~~J~~ Y	3.4	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**0.45**	J	3.4	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	~~**0.43**~~	~~J~~ Y	3.4	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.4	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.4	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.4	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.4	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.4	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Dolly S. Newbold
4/29/2015

Comments:

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

April 09, 2015

Analytical Report for Service Request No: K1502868

William Gregg
Summit Envirosolutions
1217 Bandana Boulevard North
St. Paul, MN 55108

RE: City of St. Louis Park

Dear William,

Enclosed are the results of the sample(s) submitted to our laboratory March 19, 2015
For your reference, these analyses have been assigned our service request number **K1502868.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at gregory.salata@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Gregory Salata

Gregory Salata, Ph.D.
Client Services
Manager

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client:	Summit Envirosolutions	**Service Request No.:**	K1502868
Project:	City of St. Louis Park	**Date Received:**	03/19/15
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Fifteen water samples were received for analysis at ALS Environmental on 03/19/15. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270

Sample Notes and Discussion:
The results reported for various analytes in samples W440_20150318_310, W440_20150318_325, W440_20150318_355, W105_20150318, SLP6_20150318, E13_20150318, E15_20150318, SLP5_20150318_318, SLP5_20150318_338, SLP5_20150318_359, SLP5_20150318_385, and SLP10T_20150318 may contain a slight bias. The chromatogram indicated the presence of non-target background components. The matrix interference may have resulted in a slight high bias in the affected samples. The result was flagged with "X" to indicate the issue.

Surrogate Exceptions:
The control criteria were exceeded for Fluoranthene-d10, and Terphenyl-d14 in W440_20150318_310, and W440_20150318_325, SLP5_20150318_318 . A re-analysis was not performed because insufficient sample was available. No further corrective action was possible.

The control criteria were exceeded for Terphenyl-d14 in W440_20150318_355, and SLP5_20150318_359 . A re-analysis was not performed because insufficient sample was available. No further corrective action was possible.

Elevated Detection Limits:
The detection limit was elevated for Indole in sample W440_20150318_355. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The result was flagged to indicate the matrix interference.

Matrix Spike Recovery Exceptions:
The recovery of Benzofuran, Indan, Indene, Quinoline, and Acridine in Matrix Spike (MS) SLP10T_20150318MS (KWG1502504-1) was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

Approved by_____

The recovery of Benzofuran, Indan, Indene, Benzo(b)thiophene, Indole, and Acridine in Duplicate Matrix Spike (DMS) SLP10T_20150318DMS (KWG1502504-2) was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

The matrix spike recovery of Benzo(k)fluoranthene, Benzo(e)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene for sample SLP10T_20150318MS was outside control criteria. Recovery in the replicate Laboratory Control Samplse (LCS/DLCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

The matrix spike recovery of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(e)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene for sample SLP10T_20150318DMS was outside control criteria. Recovery in the replicate Laboratory Control Samples (LCS/DLCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for Acridine in the replicate matrix spike analyses of SLP10T_20150318 was outside control criteria. The matrix spike outlier suggested a potential low bias in this matrix. Insufficient sample remained for additional testing. No further corrective action was appropriate.

Lab Control Sample Exceptions:
The recovery of Indan, and Acridine in Laboratory Control Sample (LCS) KWG1502504-3 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

The recovery of Benzofuran, Indan, Indene, and Acridine in Duplicate Laboratory Control Sample (DLCS) KWG1502504-4 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Environmental

CHAIN OF CUSTODY
57957

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SR# K150 2868

COC Set____of____

COC#_____

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

Project Name: CSLP	Project Number:
Project Manager: Bill Gregg	
Company: Summit Enviro Solutions	
Address: 1217 Bandana Blvd N St. Paul MN 55108	
Phone #: 651-842-4229	email: bgregg@summit.com
Sampler Signature: Kyle Romens	Sampler Printed Name: Kyle Romens

CLIENT SAMPLE ID	LABID	SAMPLING Date	SAMPLING Time	Matrix	NUMBER OF CONTAINERS	8270D / PAH SIM	7D	1	2	3	4	5	Remarks
1. W440_20150318		3/18/15	1440	DW	2	X							~~310, 325, 355~~ 310, 325, 355
2. W105_20150318			1150										
3. SLP4T_20150318			1620										
4. E7_20150318			0900										
5. SLP6_20150318			0955										
6. E13_20150318			0810										
7. E15_20150318			0915										
8. SLP5_20150318			1240										318, 355, 359, 365
9. SLP10T_20150318			1520	V	V	V							D, MS, MSD, FB
10.													

Report Requirements

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. CLP Like Summary (no raw data)

___ IV. Data Validation Report

___ V. EDD

Invoice Information

P.O.# 0987-0009-600

Bill To: Bill Gregg JJ

Turnaround Requirements

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments: W440_20150318 + SLP5_20150318 have Seperate depth intervals to be treated has Seperate Samples. Noted in Remarks

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other____(Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: Kyle Romens	Signature: DeWitt	Signature	Signature	Signature	Signature
Printed Name: Kyle Romens	Printed Name: 3-19-15 9:40	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Summit Enviro Solutions	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 3/18/15 1620	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

PC Greg

Cooler Receipt and Preservation Form

Client / Project: Summit Enviro Solutions Service Request *K15* 028168

Received: 3.19.15 Opened: 3.19.15 By: bw Unloaded: 3.19.15 By: bw

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
3.6	3.6	2.1	2.1	0.0	356	57957	7803 6767 2272	
4.3	4.2	1.6	1.5	-0.1	350	"	7803 6767 2261	
0.6	0.7	1.1	1.2	+0.1	345	"	7803 6767 2250	
1.2	1.1	0.3	0.2	-0.1	308	"	8064 4369 7334	
2.8	2.8	2.3	2.3	0.0	356	"	7803 6767 2283	

4. Packing material: (*Inserts*) *Baggies* *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

Polynuclear Aromatic Hydrocarbons

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Summit Envirosolutions **Service Request:** K1502868
Project: City of St. Louis Park

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
W440_20150318_310	K1502868-001	03/18/2015	03/19/2015
W440_20150318_325	K1502868-002	03/18/2015	03/19/2015
W440_20150318_355	K1502868-003	03/18/2015	03/19/2015
W105_20150318	K1502868-004	03/18/2015	03/19/2015
SLP4T_20150318	K1502868-005	03/18/2015	03/19/2015
E7_20150318	K1502868-006	03/18/2015	03/19/2015
SLP6_20150318	K1502868-007	03/18/2015	03/19/2015
E13_20150318	K1502868-008	03/18/2015	03/19/2015
E15_20150318	K1502868-009	03/18/2015	03/19/2015
SLP5_20150318_318	K1502868-010	03/18/2015	03/19/2015
SLP5_20150318_338	K1502868-011	03/18/2015	03/19/2015
SLP5_20150318_359	K1502868-012	03/18/2015	03/19/2015
SLP5_20150318_385	K1502868-013	03/18/2015	03/19/2015
SLP10T_20150318	K1502868-014	03/18/2015	03/19/2015
SLP10TFB_20150318	K1502868-015	03/18/2015	03/19/2015
SLP10T_20150318MS	KWG1502504-1	03/18/2015	03/19/2015
SLP10T_20150318DMS	KWG1502504-2	03/18/2015	03/19/2015

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W440_20150318_310	**Units:**	ng/L
Lab Code:	K1502868-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**3.9**	X	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	*
Indan	**50**		3.3	0.34	1	03/25/15	04/02/15	KWG1502504	*
Indene	**45**		3.3	0.23	1	03/25/15	04/02/15	KWG1502504	*
Naphthalene	**16**		3.3	0.55	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)thiophene	**1.0**	JX	3.3	0.16	1	03/25/15	04/02/15	KWG1502504	
Quinoline	**7.5**		6.5	3.6	1	03/25/15	04/02/15	KWG1502504	
Indole	**0.49**	JX	3.3	0.27	1	03/25/15	04/02/15	KWG1502504	
2-Methylnaphthalene	**7.2**		3.3	0.35	1	03/25/15	04/02/15	KWG1502504	
1-Methylnaphthalene	**5.0**		3.3	0.40	1	03/25/15	04/02/15	KWG1502504	
Biphenyl	**2.1**	J	3.3	0.30	1	03/25/15	04/02/15	KWG1502504	
Acenaphthylene	**0.58**	JX	3.3	0.33	1	03/25/15	04/02/15	KWG1502504	
Acenaphthene	**4.5**		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Dibenzofuran	**1.2**	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluorene	**3.7**		3.3	0.23	1	03/25/15	04/02/15	KWG1502504	
Dibenzothiophene	**0.83**	J	3.3	0.10	1	03/25/15	04/02/15	KWG1502504	
Phenanthrene	**5.2**		3.3	0.54	1	03/25/15	04/02/15	KWG1502504	
Anthracene	**0.94**	J	3.3	0.36	1	03/25/15	04/02/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/02/15	KWG1502504	*
Carbazole	**1.4**	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluoranthene	**3.3**		3.3	0.24	1	03/25/15	04/02/15	KWG1502504	
Pyrene	**4.8**		3.3	0.15	1	03/25/15	04/02/15	KWG1502504	
Benz(a)anthracene	**1.1**	J	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Chrysene	**1.1**	J	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)fluoranthene	**1.2**	J	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(k)fluoranthene	**0.41**	J	3.3	0.17	1	03/25/15	04/02/15	KWG1502504	
Benzo(e)pyrene	**0.69**	J	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(a)pyrene	**0.77**	J	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	**0.78**	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/02/15	KWG1502504	
Benzo(g,h,i)perylene	**0.68**	J	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W440_20150318_310	**Units:**	ng/L
Lab Code:	K1502868-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	54	46-114	04/02/15	Acceptable
Fluoranthene-d10	26	51-121	04/02/15	Outside Control Limits
Terphenyl-d14	9	58-140	04/02/15	Outside Control Limits

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W440_20150318_325	**Units:**	ng/L
Lab Code:	K1502868-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**3.3**	X	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**47**		3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**42**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**23**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**1.1**	JX	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	**8.2**		6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**0.98**	JX	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**9.7**		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**6.5**		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**2.5**	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**0.91**	JX	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**5.7**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**1.8**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**4.5**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**1.3**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**11**		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**2.1**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**2.0**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**10**		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**13**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**3.9**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	**5.2**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	**6.9**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	**2.1**	J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	**3.8**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	**4.0**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	**0.92**	J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	**4.1**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	**1.0**	JX	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	**3.8**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W440_20150318_325	**Units:**	ng/L
Lab Code:	K1502868-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	61	46-114	04/03/15	Acceptable
Fluoranthene-d10	37	51-121	04/03/15	Outside Control Limits
Terphenyl-d14	13	58-140	04/03/15	Outside Control Limits

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W440_20150318_355	**Units:**	ng/L
Lab Code:	K1502868-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**2.1**	JX	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**35**		3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**33**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**88**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**0.94**	JX	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	**6.6**		6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	ND	Ui	12	12	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**6.9**		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**4.7**		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**2.4**	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**1.9**	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**5.4**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**1.9**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**4.5**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**1.8**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**22**		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**5.2**		3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**3.7**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**30**		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**32**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**13**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	**17**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	**21**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	**7.3**		3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	**12**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	**13**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	**3.1**	J	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	**12**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	**3.0**	J	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	**12**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

***** See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W440_20150318_355	**Units:**	ng/L
Lab Code:	K1502868-003	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	46-114	04/03/15	Acceptable
Fluoranthene-d10	59	51-121	04/03/15	Acceptable
Terphenyl-d14	22	58-140	04/03/15	Outside Control Limits

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W105_20150318	**Units:**	ng/L
Lab Code:	K1502868-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**0.91**	JX	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	*
Indan	**73**		3.3	0.34	1	03/25/15	04/02/15	KWG1502504	*
Indene	**18**		3.3	0.23	1	03/25/15	04/02/15	KWG1502504	*
Naphthalene	**82**		3.3	0.55	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)thiophene	**21**		3.3	0.16	1	03/25/15	04/02/15	KWG1502504	
Quinoline	**5.0**	J	6.6	3.6	1	03/25/15	04/02/15	KWG1502504	
Indole	**0.95**	J	3.3	0.27	1	03/25/15	04/02/15	KWG1502504	
2-Methylnaphthalene	**14**		3.3	0.35	1	03/25/15	04/02/15	KWG1502504	
1-Methylnaphthalene	**32**		3.3	0.40	1	03/25/15	04/02/15	KWG1502504	
Biphenyl	**36**		3.3	0.30	1	03/25/15	04/02/15	KWG1502504	
Acenaphthylene	**30**		3.3	0.33	1	03/25/15	04/02/15	KWG1502504	
Acenaphthene	**150**		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Dibenzofuran	**41**		3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluorene	**120**		3.3	0.23	1	03/25/15	04/02/15	KWG1502504	
Dibenzothiophene	**18**		3.3	0.10	1	03/25/15	04/02/15	KWG1502504	
Phenanthrene	**36**		3.3	0.54	1	03/25/15	04/02/15	KWG1502504	
Anthracene	**17**		3.3	0.36	1	03/25/15	04/02/15	KWG1502504	
Acridine	ND	U	20	2.6	1	03/25/15	04/02/15	KWG1502504	*
Carbazole	**14**		3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluoranthene	**330**		3.3	0.24	1	03/25/15	04/02/15	KWG1502504	
Pyrene	**290**		3.3	0.15	1	03/25/15	04/02/15	KWG1502504	
Benz(a)anthracene	**47**		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Chrysene	**35**		3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)fluoranthene	**11**		3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(k)fluoranthene	**3.8**		3.3	0.17	1	03/25/15	04/02/15	KWG1502504	
Benzo(e)pyrene	**5.8**		3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(a)pyrene	**7.5**		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Perylene	**1.6**	J	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	**2.7**	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Dibenz(a,h)anthracene	**0.88**	J	3.3	0.25	1	03/25/15	04/02/15	KWG1502504	
Benzo(g,h,i)perylene	**2.9**	J	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	W105_20150318	**Units:**	ng/L
Lab Code:	K1502868-004	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	70	46-114	04/02/15	Acceptable
Fluoranthene-d10	77	51-121	04/02/15	Acceptable
Terphenyl-d14	77	58-140	04/02/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP4T_20150318	**Units:**	ng/L
Lab Code:	K1502868-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**1.2**	J	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**0.46**	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**2.3**	J	3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	ND	U	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**3.0**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	ND	U	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	ND	U	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**1.3**	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	ND	U	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**0.56**	J	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**0.47**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**0.42**	J	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**0.24**	J	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**0.44**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP4T_20150318	**Units:**	ng/L
Lab Code:	K1502868-005	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	46-114	04/03/15	Acceptable
Fluoranthene-d10	82	51-121	04/03/15	Acceptable
Terphenyl-d14	80	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	E7_20150318	**Units:**	ng/L
Lab Code:	K1502868-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**2.4**	J	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**8.4**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**5.8**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**3.5**		3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**1.4**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**1.1**	J	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**0.85**	J	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**1.4**	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**0.54**	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**3.0**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**0.43**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**0.96**	J	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**1.2**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**0.52**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**0.70**	J	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**1.1**	J	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**0.46**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	E7_20150318	**Units:**	ng/L
Lab Code:	K1502868-006	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	46-114	04/03/15	Acceptable
Fluoranthene-d10	81	51-121	04/03/15	Acceptable
Terphenyl-d14	80	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP6_20150318	**Units:**	ng/L
Lab Code:	K1502868-007	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**0.91**	JX	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**32**		3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**7.6**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**7.7**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**8.6**		3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.6	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**4.3**		3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**1.3**	J	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**1.6**	J	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**1.7**	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**5.6**		3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**54**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**0.49**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**0.93**	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**1.6**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**2.0**	J	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**3.7**		3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	**11**	J	20	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**2.8**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**1.4**	J	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**7.6**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**0.48**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP6_20150318	**Units:**	ng/L
Lab Code:	K1502868-007	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	69	46-114	04/03/15	Acceptable
Fluoranthene-d10	81	51-121	04/03/15	Acceptable
Terphenyl-d14	79	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	E13_20150318	**Units:**	ng/L
Lab Code:	K1502868-008	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**2.9**	J	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**0.34**	JX	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**110**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**0.28**	J	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**0.66**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**0.38**	J	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**0.51**	J	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**1.3**	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**6.7**		3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**75**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**0.68**	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**1.8**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**0.94**	J	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**0.42**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**0.41**	J	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**8.7**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**0.52**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

***** See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	E13_20150318	**Units:**	ng/L
Lab Code:	K1502868-008	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	69	46-114	04/03/15	Acceptable
Fluoranthene-d10	79	51-121	04/03/15	Acceptable
Terphenyl-d14	80	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	E15_20150318	**Units:**	ng/L
Lab Code:	K1502868-009	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**0.35**	J	3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**0.27**	JX	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**4.5**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	ND	U	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**0.40**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**0.44**	J	3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	ND	U	3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**1.1**	J	3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	ND	U	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**0.35**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**0.23**	J	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	ND	U	3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	ND	U	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**0.42**	J	3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**0.84**	J	3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**0.38**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	E15_20150318	**Units:**	ng/L
Lab Code:	K1502868-009	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	46-114	04/03/15	Acceptable
Fluoranthene-d10	77	51-121	04/03/15	Acceptable
Terphenyl-d14	79	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: 03/18/2015
Date Received: 03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name: SLP5_20150318_318
Lab Code: K1502868-010

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**1.2**	JX	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**9.5**		3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**1.4**	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**180**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**3.2**	J	3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**0.62**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**7.5**		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**8.9**		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**3.9**		3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**0.36**	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**17**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**6.4**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**8.6**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**2.0**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**12**		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**1.2**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	**5.6**	J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**16**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**8.8**		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**12**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**0.87**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	**0.94**	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	**0.41**	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP5_20150318_318	**Units:**	ng/L
Lab Code:	K1502868-010	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	63	46-114	04/03/15	Acceptable
Fluoranthene-d10	43	51-121	04/03/15	Outside Control Limits
Terphenyl-d14	14	58-140	04/03/15	Outside Control Limits

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP5_20150318_338	**Units:**	ng/L
Lab Code:	K1502868-011	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**1.3**	JX	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**10**		3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**1.4**	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**220**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**3.4**		3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	**7.9**		6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**0.65**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**7.8**		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**8.6**		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**3.7**		3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**1.7**	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**21**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**6.4**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**8.6**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**2.0**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**13**		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**1.0**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	**4.9**	J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**17**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**5.9**		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**34**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**2.3**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	**2.0**	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP5_20150318_338	**Units:**	ng/L
Lab Code:	K1502868-011	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	70	46-114	04/03/15	Acceptable
Fluoranthene-d10	79	51-121	04/03/15	Acceptable
Terphenyl-d14	74	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP5_20150318_359	**Units:**	ng/L
Lab Code:	K1502868-012	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**1.3**	JX	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**10**		3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**1.6**	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**160**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**4.0**		3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**1.3**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**7.5**		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**8.1**		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**3.5**		3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**1.4**	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**25**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**6.4**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**9.1**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**2.0**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**16**		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**1.3**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	**13**	J	19	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**19**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**4.5**		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**28**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**3.0**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	**1.6**	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	**0.61**	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP5_20150318_359	**Units:**	ng/L
Lab Code:	K1502868-012	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	67	46-114	04/03/15	Acceptable
Fluoranthene-d10	70	51-121	04/03/15	Acceptable
Terphenyl-d14	35	58-140	04/03/15	Outside Control Limits

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP5_20150318_385	**Units:**	ng/L
Lab Code:	K1502868-013	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	**2.1**	JX	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**17**		3.3	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	**2.2**	J	3.3	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**260**		3.3	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	**5.7**		3.3	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.6	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	**0.75**	J	3.3	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**11**		3.3	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**13**		3.3	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**5.2**		3.3	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	**1.7**	J	3.3	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**31**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**10**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	**14**		3.3	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	**2.3**	J	3.3	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**21**		3.3	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	**1.7**	J	3.3	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	**8.1**	J	20	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	**28**		3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**4.3**		3.3	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**57**		3.3	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**10**		3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	**4.9**		3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	**1.0**	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	**0.28**	J	3.3	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	**0.38**	J	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	**0.33**	J	3.3	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP5_20150318_385	**Units:**	ng/L
Lab Code:	K1502868-013	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	69	46-114	04/03/15	Acceptable
Fluoranthene-d10	79	51-121	04/03/15	Acceptable
Terphenyl-d14	76	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP10T_20150318	**Units:**	ng/L
Lab Code:	K1502868-014	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	*
Indan	**6.2**		3.3	0.34	1	03/25/15	04/02/15	KWG1502504	*
Indene	**0.91**	JX	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	*
Naphthalene	**3.8**		3.3	0.55	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)thiophene	**0.44**	J	3.3	0.16	1	03/25/15	04/02/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/02/15	KWG1502504	
Indole	**1.1**	J	3.3	0.27	1	03/25/15	04/02/15	KWG1502504	
2-Methylnaphthalene	**0.43**	J	3.3	0.35	1	03/25/15	04/02/15	KWG1502504	
1-Methylnaphthalene	**1.5**	J	3.3	0.40	1	03/25/15	04/02/15	KWG1502504	
Biphenyl	**1.1**	J	3.3	0.30	1	03/25/15	04/02/15	KWG1502504	
Acenaphthylene	**0.41**	J	3.3	0.33	1	03/25/15	04/02/15	KWG1502504	
Acenaphthene	**6.8**		3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Dibenzofuran	**0.29**	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluorene	**0.67**	J	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/02/15	KWG1502504	
Phenanthrene	**0.57**	J	3.3	0.54	1	03/25/15	04/02/15	KWG1502504	
Anthracene	ND	U	3.3	0.36	1	03/25/15	04/02/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/02/15	KWG1502504	*
Carbazole	**0.42**	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluoranthene	**0.40**	J	3.3	0.24	1	03/25/15	04/02/15	KWG1502504	
Pyrene	**0.32**	J	3.3	0.15	1	03/25/15	04/02/15	KWG1502504	
Benz(a)anthracene	**0.49**	J	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/02/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/02/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	

***** See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP10T_20150318	**Units:**	ng/L
Lab Code:	K1502868-014	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	46-114	04/02/15	Acceptable
Fluoranthene-d10	80	51-121	04/02/15	Acceptable
Terphenyl-d14	81	58-140	04/02/15	Acceptable

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP10TFB_20150318	**Units:**	ng/L
Lab Code:	K1502868-015	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U	3.4	0.20	1	03/25/15	04/03/15	KWG1502504	*
Indan	**0.50**	J	3.4	0.34	1	03/25/15	04/03/15	KWG1502504	*
Indene	ND	U	3.4	0.23	1	03/25/15	04/03/15	KWG1502504	*
Naphthalene	**120**		3.4	0.55	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)thiophene	ND	U	3.4	0.16	1	03/25/15	04/03/15	KWG1502504	
Quinoline	ND	U	6.7	3.6	1	03/25/15	04/03/15	KWG1502504	
Indole	ND	U	3.4	0.27	1	03/25/15	04/03/15	KWG1502504	
2-Methylnaphthalene	**1.1**	J	3.4	0.35	1	03/25/15	04/03/15	KWG1502504	
1-Methylnaphthalene	**1.5**	J	3.4	0.40	1	03/25/15	04/03/15	KWG1502504	
Biphenyl	**1.5**	J	3.4	0.30	1	03/25/15	04/03/15	KWG1502504	
Acenaphthylene	ND	U	3.4	0.33	1	03/25/15	04/03/15	KWG1502504	
Acenaphthene	**0.42**	J	3.4	0.18	1	03/25/15	04/03/15	KWG1502504	
Dibenzofuran	**0.47**	J	3.4	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluorene	ND	U	3.4	0.23	1	03/25/15	04/03/15	KWG1502504	
Dibenzothiophene	ND	U	3.4	0.10	1	03/25/15	04/03/15	KWG1502504	
Phenanthrene	**1.2**	J	3.4	0.54	1	03/25/15	04/03/15	KWG1502504	
Anthracene	ND	U	3.4	0.36	1	03/25/15	04/03/15	KWG1502504	
Acridine	ND	U	20	2.6	1	03/25/15	04/03/15	KWG1502504	*
Carbazole	ND	U	3.4	0.22	1	03/25/15	04/03/15	KWG1502504	
Fluoranthene	**0.52**	J	3.4	0.24	1	03/25/15	04/03/15	KWG1502504	
Pyrene	**0.45**	J	3.4	0.15	1	03/25/15	04/03/15	KWG1502504	
Benz(a)anthracene	**0.43**	J	3.4	0.18	1	03/25/15	04/03/15	KWG1502504	
Chrysene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.4	0.17	1	03/25/15	04/03/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.4	0.18	1	03/25/15	04/03/15	KWG1502504	
Perylene	ND	U	3.4	0.20	1	03/25/15	04/03/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.4	0.22	1	03/25/15	04/03/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.4	0.25	1	03/25/15	04/03/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.4	0.19	1	03/25/15	04/03/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	03/18/2015
Sample Matrix:	Water	**Date Received:**	03/19/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	SLP10TFB_20150318	**Units:**	ng/L
Lab Code:	K1502868-015	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	73	46-114	04/03/15	Acceptable
Fluoranthene-d10	82	51-121	04/03/15	Acceptable
Terphenyl-d14	79	58-140	04/03/15	Acceptable

Comments:

Analytical Results

Client: Summit Envirosolutions
Project: City of St. Louis Park
Sample Matrix: Water

Service Request: K1502868
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: KWG1502504-5

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzofuran	ND	U	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	*
Indan	ND	U	3.3	0.34	1	03/25/15	04/02/15	KWG1502504	*
Indene	ND	U	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	*
Naphthalene	**0.95**	J	3.3	0.55	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)thiophene	ND	U	3.3	0.16	1	03/25/15	04/02/15	KWG1502504	
Quinoline	ND	U	6.5	3.6	1	03/25/15	04/02/15	KWG1502504	
Indole	ND	U	3.3	0.27	1	03/25/15	04/02/15	KWG1502504	
2-Methylnaphthalene	**0.38**	J	3.3	0.35	1	03/25/15	04/02/15	KWG1502504	
1-Methylnaphthalene	ND	U	3.3	0.40	1	03/25/15	04/02/15	KWG1502504	
Biphenyl	**1.1**	J	3.3	0.30	1	03/25/15	04/02/15	KWG1502504	
Acenaphthylene	ND	U	3.3	0.33	1	03/25/15	04/02/15	KWG1502504	
Acenaphthene	ND	U	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Dibenzofuran	**0.24**	J	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluorene	**0.26**	J	3.3	0.23	1	03/25/15	04/02/15	KWG1502504	
Dibenzothiophene	ND	U	3.3	0.10	1	03/25/15	04/02/15	KWG1502504	
Phenanthrene	**0.90**	J	3.3	0.54	1	03/25/15	04/02/15	KWG1502504	
Anthracene	**0.38**	J	3.3	0.36	1	03/25/15	04/02/15	KWG1502504	
Acridine	ND	U	19	2.6	1	03/25/15	04/02/15	KWG1502504	*
Carbazole	ND	U	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Fluoranthene	**0.58**	J	3.3	0.24	1	03/25/15	04/02/15	KWG1502504	
Pyrene	**0.44**	J	3.3	0.15	1	03/25/15	04/02/15	KWG1502504	
Benz(a)anthracene	**0.49**	J	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Chrysene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(b)fluoranthene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(k)fluoranthene	ND	U	3.3	0.17	1	03/25/15	04/02/15	KWG1502504	
Benzo(e)pyrene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	
Benzo(a)pyrene	ND	U	3.3	0.18	1	03/25/15	04/02/15	KWG1502504	
Perylene	ND	U	3.3	0.20	1	03/25/15	04/02/15	KWG1502504	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.22	1	03/25/15	04/02/15	KWG1502504	
Dibenz(a,h)anthracene	ND	U	3.3	0.25	1	03/25/15	04/02/15	KWG1502504	
Benzo(g,h,i)perylene	ND	U	3.3	0.19	1	03/25/15	04/02/15	KWG1502504	

* See Case Narrative

Comments:

Analytical Results

Client:	Summit Envirosolutions	**Service Request:**	K1502868
Project:	City of St. Louis Park	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KWG1502504-5	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	74	46-114	04/02/15	Acceptable
Fluoranthene-d10	83	51-121	04/02/15	Acceptable
Terphenyl-d14	84	58-140	04/02/15	Acceptable

Comments:

QA/QC Report

Client: Summit Envirosolutions **Service Request:** K1502868
Project: City of St. Louis Park
Sample Matrix: Water

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C **Units:** Percent
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1	Sur2		Sur3	
W440_20150318_310	K1502868-001	54	26	*	9	*
W440_20150318_325	K1502868-002	61	37	*	13	*
W440_20150318_355	K1502868-003	66	59		22	*
W105_20150318	K1502868-004	70	77		77	
SLP4T_20150318	K1502868-005	71	82		80	
E7_20150318	K1502868-006	71	81		80	
SLP6_20150318	K1502868-007	69	81		79	
E13_20150318	K1502868-008	69	79		80	
E15_20150318	K1502868-009	66	77		79	
SLP5_20150318_318	K1502868-010	63	43	*	14	*
SLP5_20150318_338	K1502868-011	70	79		74	
SLP5_20150318_359	K1502868-012	67	70		35	*
SLP5_20150318_385	K1502868-013	69	79		76	
SLP10T_20150318	K1502868-014	71	80		81	
SLP10TFB_20150318	K1502868-015	73	82		79	
Method Blank	KWG1502504-5	74	83		84	
SLP10T_20150318MS	KWG1502504-1	71	82		81	
SLP10T_20150318DMS	KWG1502504-2	67	78		77	
Lab Control Sample	KWG1502504-3	73	82		79	
Duplicate Lab Control Sample	KWG1502504-4	72	81		78	

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	46-114
Sur2	=	Fluoranthene-d10	51-121
Sur3	=	Terphenyl-d14	58-140

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.